Cihazlarla saptanan atriyal fibrilasyona yaklaşım

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İnmelerin %50-60'ı dökümente edilmiş serebrovasküler hastalıklardan kaynaklanmaktadır

Tüm inmelerin yaklaşık 15%'inde hastalarda bilinen atriyal fibrilasyon (AF) mevcuttur

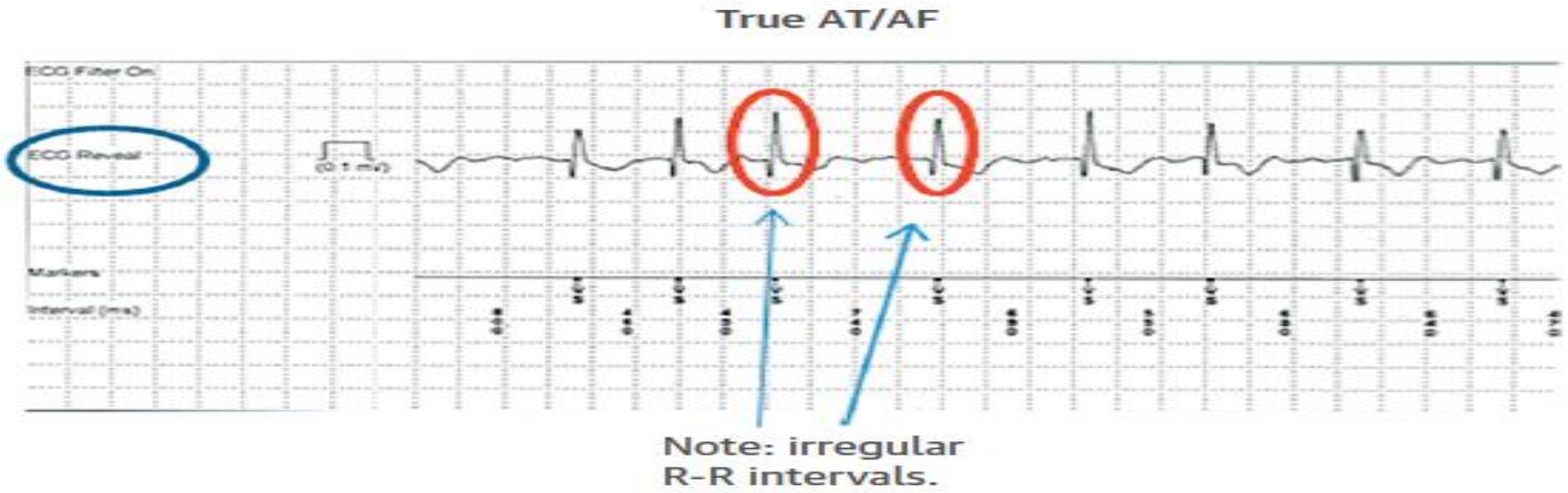
İnmelerin %25'inde neden bilinmemektedir

….ve bu grupta subklinik AF (SKAF) en muhtemel nedendir

Neurology 1978;28:973-7
Arch Intern Med 1987;147:1561-4
Stroke 1991;22:983-8
Stroke 1986;17:622-6
Stroke 2007;38:2935-40
J Am Coll Cardiol 2015;65:281–94

İmplante edilen kardiyak elektronik cihazlar (IKED) günümüzde çok sık kullanılmaktadır

Halen tüm dünyada 6.5 milyonun üzerinde IKED hastası mevcuttur ve her yıl bu sayıya yaklaşık 1 milyon ilave olmaktadır



Atrial ritmin sürekli monitorizasyonu ile ‘’yüksek hızlı subklinik atryial episotları’’ (AHRE) ve SKAF ataklarını yakalamak mümkün olmaktadır

J Am Coll Cardiol 2015; 65:281–94

2016 ESC Guidelines for the management of atrial fibrillation developed in collaboration with EACTS

It is recommended to interrogate pacemakers and ICDs on a regular basis for atrial high rate episodes (AHRE). Patients with AHRE should undergo further ECG monitoring to document AF before initiating AF therapy.	I	B

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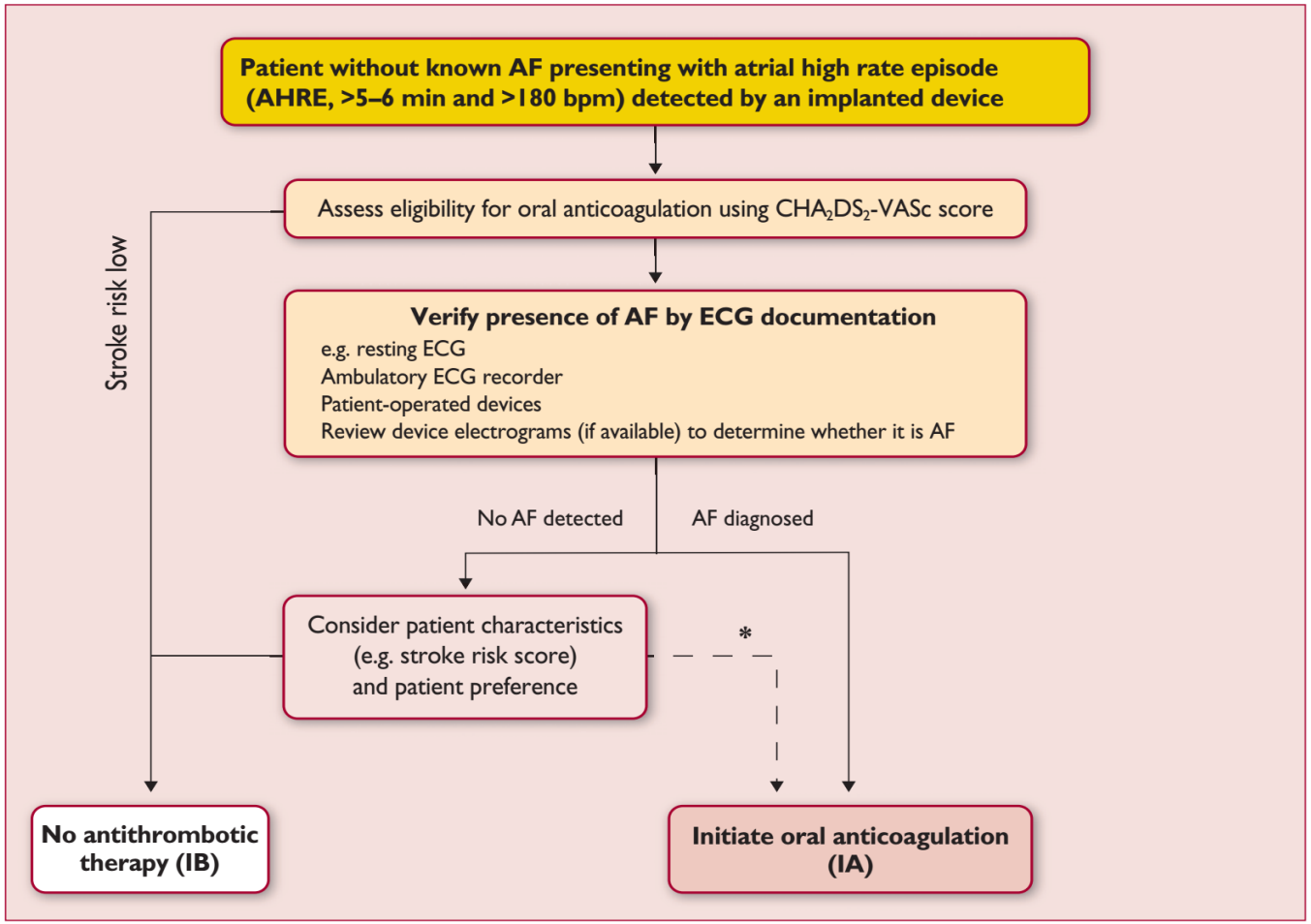
2016 ESC Guidelines for the management of atrial fibrillation developed in collaboration with EACTS



AF = atrial fibrillation; AFNET = German Competence NETwork on Atrial Fibrillation; AHRE = atrial high rate episodes; bpm = beats per minute; CHA_2DS_2-VASc = Congestive Heart failure, hypertension, Age ≥75 (doubled), Diabetes, Stroke (doubled), Vascular disease, Age 65–74, and Sex (female); ECG = electrocardiogram; EHRA = European Heart Rhythm Association.

*In rare individual circumstances, oral anticoagulation may be considered in patients with AHRE, but without diagnosed AF. This clearly needs discussion with the patient and careful evaluation of perceived benefit and risk.

[a]Adapted from the report of the 3rd AFNET/EHRA consensus conference.[150]

OAK ancak EKG'de AF tespit edilmiş ise öneriliyor.

AHRE'nin varlığının inme riskini arttırdığı bilinse de OAK dan hastaların yarar görüp görmeyecekleri tartışmalıdır.

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ESC European Society of Cardiology

Europace (2017) 19, 1556–1578
doi:10.1093/europace/eux163

EHRA CONSENSUS DOCUMENT

Device-detected subclinical atrial tachyarrhythmias: definition, implications and management—an European Heart Rhythm Association (EHRA) consensus document, endorsed by Heart Rhythm Society (HRS), Asia Pacific Heart Rhythm Society (APHRS) and Sociedad Latinoamericana de Estimulación Cardíaca y Electrofisiología (SOLEACE)

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İmplante edilen cihazlarda tespit edilen atriyal aritmiler sık mıdır ve ne kadar önemlidir?

Table 4 Incidence of atrial fibrillation in the implanted device population

Year	Study	Device Indication	Clinical Profile of Patients	Follow-up	Incidence of AF
2002	Gillis *et al.*[16]	PPMs for sinus node disease	All	718±383 days	157/231 (68%)
2003	MOST[5]	PPMs for sinus node disease	All	median 27 months	156/312 (50%)
2006	BEATS[21]	PPMs for all indications	All	Prospective, 12 months	137/254 (54%)
2010	TRENDS[17]	PPMs and ICDs All indications	History of prior stroke No history of AF No OAC use ≥1 stroke risk factor	Mean 1.4 years	45/163 (28%)
2012	TRENDS[6]	PPMs and ICDs All indications	No history of prior stroke No history of AF No OAC use ≥1 stroke risk factor	1.1±0.7 years	416/1368 (30%)
2012	ASSERT[7]	PPMs and ICDs All indications	History of hypertension No history of AF No OAC use	2.5 years	895/2580 (34.7%)
2013	Healey *et al.*[4]	PPMs All indications	All	Single center retrospective	246/445 (55.3%)

AF, atrial fibrillation; ICD, implantable cardioverter-defibrillator; OAC, oral anticoagulation; PPM, permanent pacemaker; ASSERT, ASymptomatic atrial fibrillation and Stroke Evaluation in pacemaker patients and atrial fibrillation Reduction atrial pacing Trial; BEATS, Balanced Evaluation of Atrial Tachyarrhythmias in Stimulated patients; MOST, MOde Selection Trial; TRENDS, The Relationship Between Daily Atrial Tachyarrhythmia Burden From Implantable Device Diagnostics and Stroke.

İmplante edilen cihazlarla AF tespiti

Table 5 Summary of studies on atrial fibrillation detected by CIEDs and thromboembolic risk

Year	Trial	Number of patients	Duration of follow-up	Atrial rate cut-off	AF burden threshold	Hazard ratio for TE event	TE event rate (below vs. above AF burden threshold)
2003	Ancillary MOST[5]	312	27 months (median)	>220 bpm	5 min	6.7 (P=0.020)	3.2% overall (1.3% vs. 5%)
2005	Italian AT500 Registry[18]	725	22 months (median)	>174 bpm	24 h	3.1 (P=0.044)	1.2% annual rate
2009	Botto *et al.*[19]	568	1 year (mean)	>174 bpm	$CHADS_2$+AF burden	n/a	2.5% overall (0.8% vs. 5%)
2009	TRENDS[20]	2486	1.4 years (mean)	>175 bpm	5.5 h	2.2 (P=0.060)	1.2% overall (1.1% vs. 2.4%)
2012	Home Monitor CRT[22]	560	370 days (median)	>180 bpm	3.8 h	9.4 (P=0.006)	2.0% overall
2012	ASSERT[7]	2580	2.5 years (mean)	>190 bpm	6 min	2.5 (P=0.007)	(0.69% vs. 1.69%)
2014	SOS AF[23]	10016	2 years (median)	>175 bpm	1 h	2.11 (P=0.008)	0.39% per year Overall

AF, atrial fibrillation; bpm, beats per minute; CIED, cardiac implantable electronic device; CRT, cardiac resynchronization therapy; TE, thromboembolic; SOS AF, Stroke preventiOn Strategies based on Atrial Fibrillation information from implanted devices. Other abbreviations as in *Table 4*.

İmplante edilen cihazlarla tespit edilen AF'de tromboembolik olaylar

Tanımlamalar

Definitions

Atrial high rate event (AHRE): atrial high-rate episodes are defined as atrial tachyarrhythmia episodes with rate >190 beats/min detected by cardiac implantable electronic devices.

Subclinical atrial fibrillaton (AF): atrial high-rate episodes (>6 minutes and <24-hours) with lack of correlated symptoms in patients with cardiac implantable electronic devices, detected with continuous ECG monitoring (intracardiac) and without prior diagnosis (ECG or Holter monitoring) of AF.

Silent (asymptomatic) AF: documented AF in the absence of any symptoms or prior diagnosis often presenting with a complication related to AF e.g. stroke, heart failure, etc.

Excessive supraventricular ectopic activity (ESVEA): 30 premature supraventricular contractions (PSC) /hour (≥729 PCS /24 hours) or episode of PSC runs ≥20 beats.

Gerçekler ve Öneriler
(Facts and Recommendations)

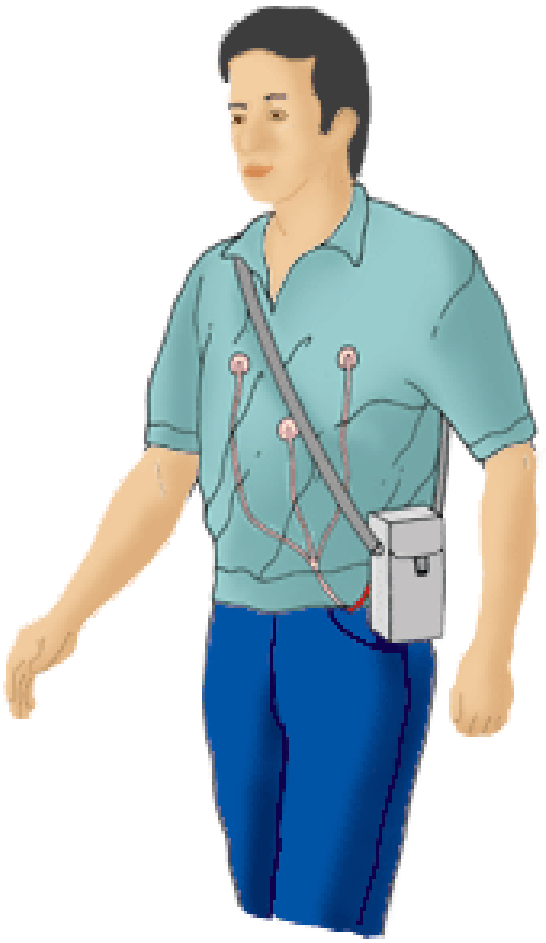
Table I **Scientific rationale of recommendations**

Scientific evidence that a treatment or procedure is beneficial and effective. Requires at least one randomized trial, or is supported by strong observational evidence and authors' consensus.	Recommended/ indicated	
General agreement and/or scientific evidence favour the usefulness/efficacy of a treatment or procedure. May be supported by randomized trials that are, however, based on small number of patients to allow a green heart recommendation.	May be used or recommended	
Scientific evidence or general agreement not to use or recommend a treatment or procedure.	Should NOT be used or recommended	

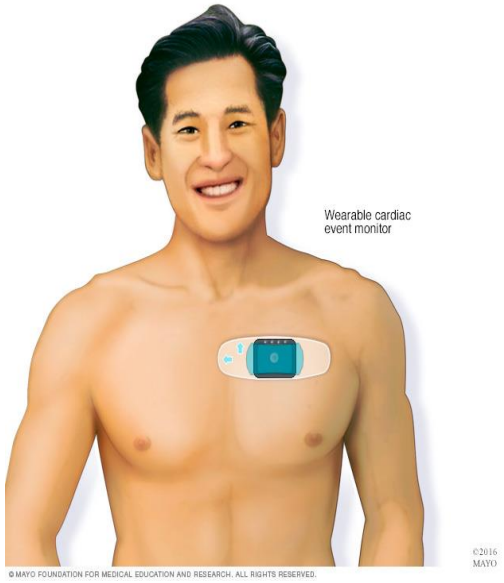
Table 12 Recommendations and fact box on use of Holter monitoring to detect atrial tachyarrhythmias

Recommendations	Class	Supporting references
Holter monitoring may be considered for detection of SAF in high-risk patients who has no CIEDs and has no indication for long-term event monitoring		51, 53, 56, 58, 59
Holter monitoring may be used as a step in screening strategy or in combination with other screening tools to improve detection of subclinical arrhythmia and to select candidates for long-term monitoring		51, 57, 60
Serial Holter monitoring may be considered if longer duration monitoring tools are not available		51, 53, 56, 57, 59
Fact ESVEA documented by Holter monitoring can be considered be a surrogate marker for paroxysmal AF		43, 48–51

AF, atrial fibrillation; ESVEA, excessive supraventricular ectopic activity; CIED, cardiac implantable electronic device; SAF, silent atrial fibrillation.



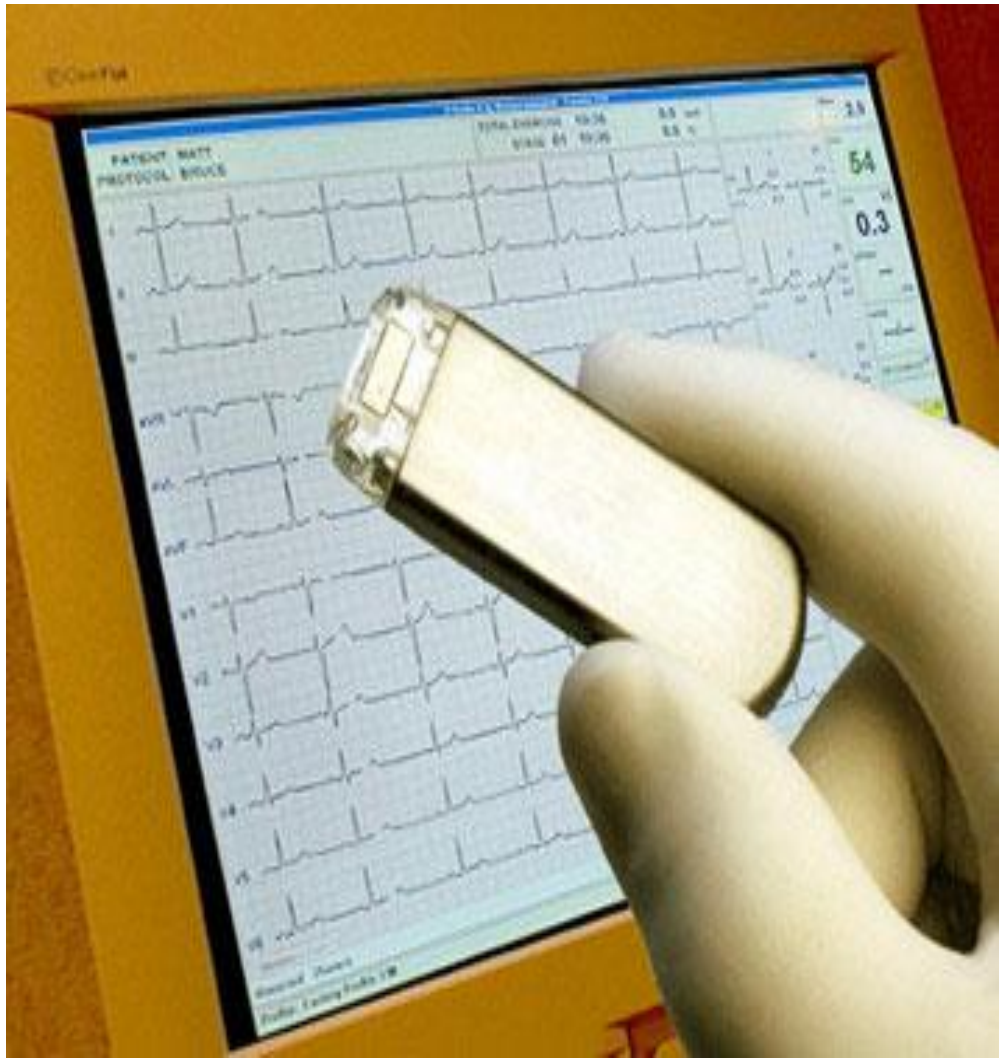
Holter monitörizasyonu



Event recorders (olay kayıt ediciler)

Table 18 Recommendations on use of implantable loop recorders and anticoagulation in cryptogenic stroke

Recommendations	Class	Supporting references
Outside of the research context patients with cryptogenic stroke may not receive an ILR		26, 84, 85, 87



ILR (İmplante edilen kayıt ediciler)

Facts

Handheld electrocardiogram devices can be inexpensive, cost-effective, and non-invasive tools for screening of silent intermittent AF episodes, for example, in patients with ischemic stroke or TIA without a history of AF

Handheld ECG (El EKG'si)

İnme riskini belirleme ve korunma

Table 18 Recommendations on use of implantable loop recorders and anticoagulation in cryptogenic stroke

Recommendations	Class	Supporting references
Patients with cryptogenic stroke may receive anticoagulation (based upon brain imaging) after a negative comprehensive cardiac and vascular investigation		26, 84, 85, 87

Kriptojenik inmeden sonra antikoagülasyon

Table 17 Predictors of atrial fibrillation in cryptogenic stroke population

Study	Predictors of atrial fibrillation
Cotter *et al.*[83] (2013)	Age
	Frequent atrial premature beats
	Inter-atrial conduction block
	Increased left atrial volume
CRYSTAL AF[41] (2014)	Age (U and M)
	$CHADS_2$ score (U)
	PR interval (U and M)
	Frequent atrial premature beats (U)
	Diabetes (U)

M, multivariate; U, univariate; CRYSTAL AF, CRYptogenic STroke and underlying AtriaL fibrillation.

Kriptojenik AF'nin prediktörleri

Assessment of the patient's stroke risk using the CHA_2DS_2-VASc score is recommended

Antikoagülasyon önerileri

Bleeding risk should be assessed using validated scores, such as the HAS-BLED score.

- Patients at high risk (score≥3) should be identified for more regular review and follow-up, and the reversible bleeding risk factors addressed.
- A high HAS-BLED score is not a reason to withhold anticoagulation.

Kanama riskini değerlendirme

Table 20 Recommendations on stroke prevention in subclinical atrial tachyarrhythmias

Recommendations	Class	Supporting references
The presence of AHRE >5 min is associated with an increased risk of stroke/SE especially in the presence of ≥ 2 stroke risk factors using the CHA_2DS_2-VASc score.		5, 38

AHRE, atrial high rate episode; NOAC, non-vitamin K antagonist oral anticoagulant; OAC, oral anticoagulation; SE, systemic embolism; TTR, time in the therapeutic ranges; VKA, vitamin K antagonist.

Antikoagülasyon önerileri (AHRE)

Table 10 Recommendations for treatment of sub-clinical atrial fibrillation with oral anticoagulation

CHA_2DS_2-VASc score	Duration of AHRE	Recommendation
≥2	>5.5 h (lower duration if multiple stroke risk factors are present)*	
1 (male) or 2 (female)	>5.5 h*	

*Data suggests risk is similarly increased by a mere 5 min.
AHRE, atrial high rate episode.

Antikoagülasyon önerileri (AHRE)

Rationale and design of the Apixaban for the Reduction of Thrombo-Embolism in Patients With Device-Detected Sub-Clinical Atrial Fibrillation (ARTESiA) trial

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Probing oral anticoagulation in patients with atrial high rate episodes: Rationale and design of the Non–vitamin K antagonist Oral anticoagulants in patients with Atrial High rate episodes (NOAH–AFNET 6) trial

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Sonuç olarak,

İnmelerin %25'inin sebebini bilmiyoruz. Bu gruptaki hastaların önemli kısmında nedenin SKAF olduğu düşünülmektedir

IKED'lar ve eksternal cihazlarla SKAF ve/veya AHRE 'leri tespit etme olanağımız vardır

AHRE varlığında klinik AF gelişim olasılığı yüksektir

Klinik AF'ler kadar olmasa da bu olgularda inme olasılığı vardır

Gerek SKAF'de gerekse AHRE'de OAK için karar vermede CHA2 DS2 -VASc değerlendirilmesi aynen klinik AF'lerde olduğu gibi çok önemlidir

Masal Şatosu, Sazova Eskişehir